

Figure 3. Shallow (<1 m deep) pits with diameters of several meters dot the seafloor in the parts of the study area deeper than about 80 m. They are presumed to have been dug by yellow-edge grouper. Their use to the fish is not known, but they provide a useful clue to the geologist about the composition of the sediment. Pits such as these would quickly collapse in sand; the sediment in the pitted areas must be of a finer-grained, more cohesive texture. Sediment samples from this area confirm this.

yellow-edge grouper, suggest that the seafloor consists of finer-grained, more cohesive sediments (figure 3).

Preliminary analysis of the foraminifera in four sediment grab samples distinguished a relict assemblage typical of shallow-water carbonate environments, and a modern assemblage typical of deep water siliciclastic environments, indicating an approximately 50 m rise in sealevel during the Holocene.

The pilot studies currently underway show that there is a strong link between the geologic history of the West



Figure 4. A fine example of a large male gag grouper, one of the species that aggregate to spawn at the rocky shelf-edge habitats in the eastern Gulf of Mexico.

Florida Shelf-edge and the spawning and feeding of several species of commercial and sport fish (figure 4).

The Fisheries Management Council is considering establishing no-fishing reserves in the eastern Gulf of Mexico to address the problem of declining catches. The West Florida Shelf is a huge area, encompassing about 140,000 km². It is imperative to understand the geologic history of the area in order to predict where appropriate habitats for the target fish species will occur. Resources can then be focussed on mapping those areas and identifying sites best suited to the goals of the reserve.

Proposals for future cooperative work are being prepared by geologists and biologists from several agencies.

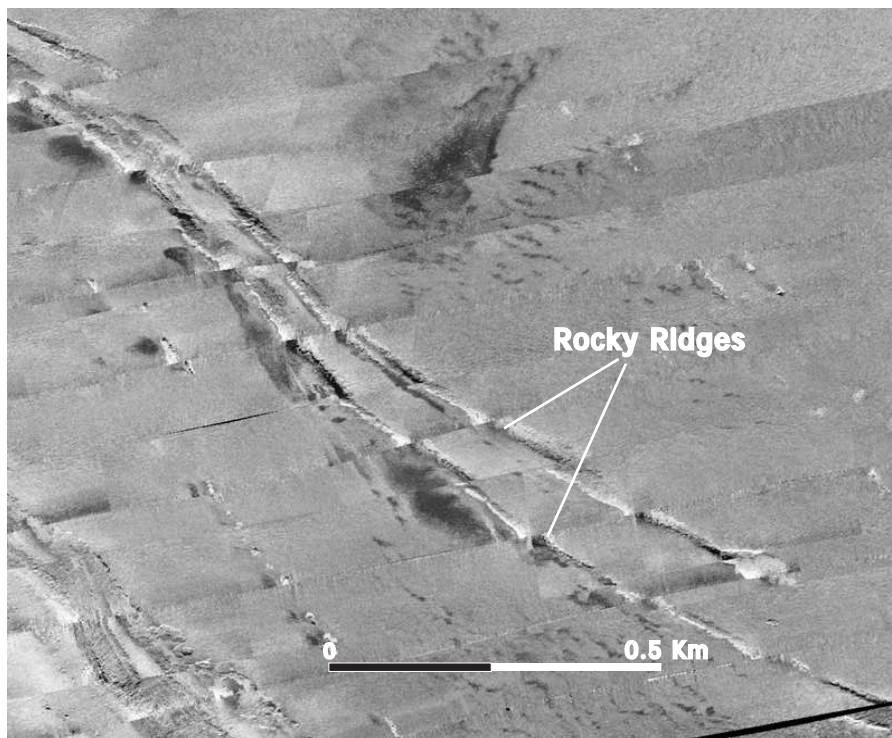


Figure 5. This mosaic of sidescan-sonar data from the southeastern corner of the pilot study area shown in Figure 1 shows 15-meter-high rocky ridges, partially buried by sediment. This type of habitat is favored by some species of grouper for spawning and is attractive to other species for feeding.

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